

Ryan Chouest daily data transmission and report

Period covered: 1212 07/19/2010 - 2157 07/20/2010

78.386 - Nautical miles covered

Vessel science party:

Xiubin Qi (Xiubin.Qi@csiro.au)
Stephane Armand (Stephane.Armand@csiro.au)
Andy Revill (Andy.Revill@csiro.au)
Charlotte Stalvies (Charlotte.Stalvies@csiro.au)
Lawrence Febo (Lawrence.Febo@bp.com)
Guilherme de Almeida (gdealmeida@entrix.com)

Contact details:

+ 1 337 761 9830 – Sat phone
+ 1 337-761-9830 – Broadband phone ship office 1
+ 1 337-761-9827 – Broadband phone ship office 2
+ 1 337-761-9826 - Broadband phone ship bridge

Cruise notes:

We towed the underway water sampler for the route shown in Figure 1.

Science results and preliminary interpretation:

Fluorometry results

Fluorometry measurements are low to lower-medium for the Chelsea and Trios sensors (Figures 2-3). In contrast, the Contros fluorometer data show medium level values on the northern tip of the route towards Theodore, however a close examination of the Contros window confirmed the existence of oil coating on it, so the enhanced sensor reading in Contros when approaching port Theodore may not be a true reflection of the relative PAH concentration.

Surface Observations

Fresh brown oil streamers were observed as we began our transit back into port. A marked contrast in surface sheen was initially observed, followed by the oil slick's leading edge with abundant fresh brown mousse (Figure 1 and Photographs 1-2). Oil formed into thick streamers as it drifted towards the ship (Photographs 3-4) and was characterized by a frothy brown texture (Photograph 5). Samples of oil and water were collected at this location.

Science Operations:

Fluorometer measurements were logged and observations of sea-surface conditions were made throughout the majority of the period. Vertical fluorometry casts and water samples were taken along the circular path. We continue to perform liquid-liquid extractions on seawater samples and analyze the extracted material by GCMS. We are also continuing to collect midwater and deep echosounder contacts.

Planned versus actual route taken cruise 8:

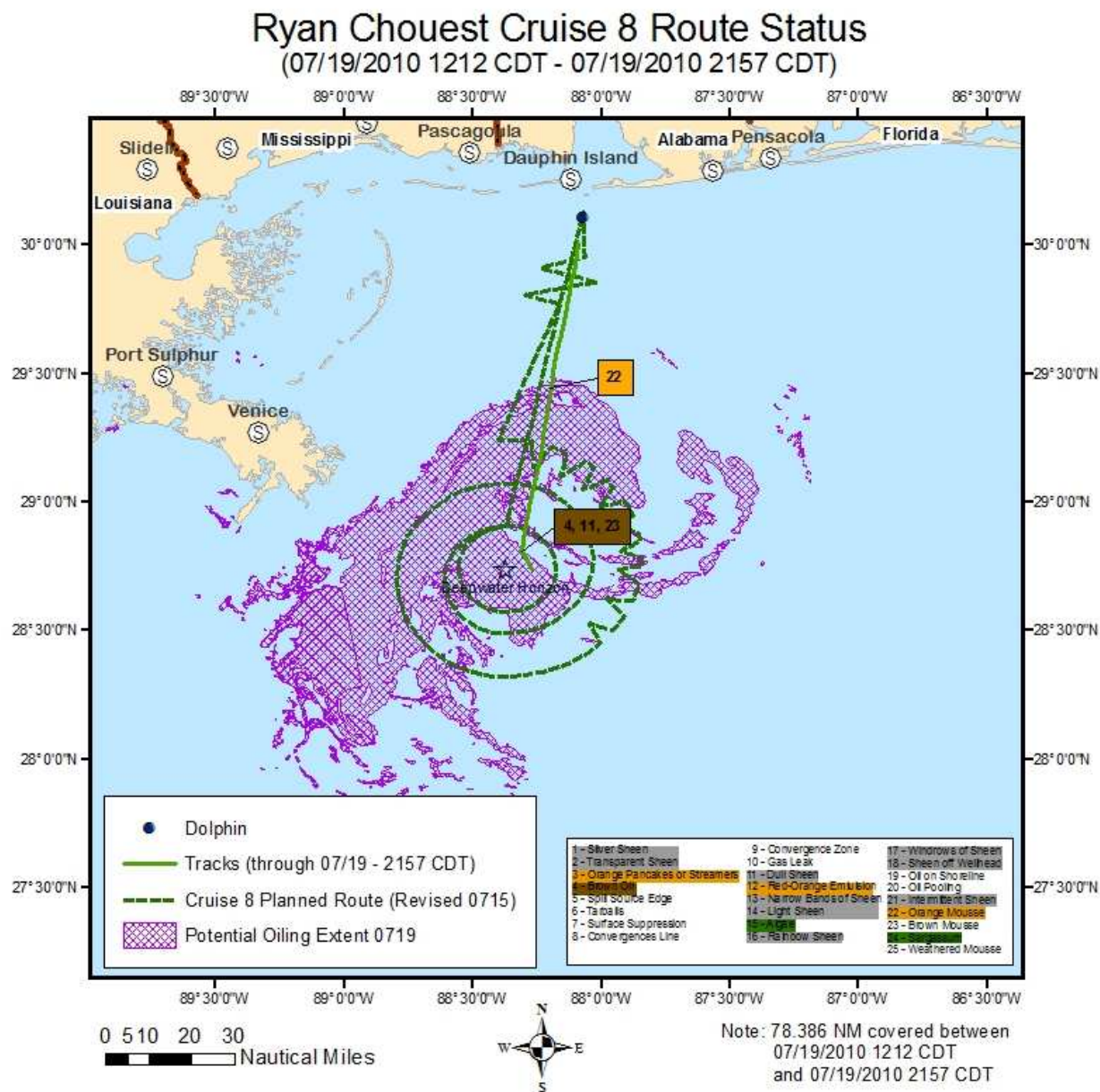


Figure 1: Planned versus actual route course plotted between 1212 07/19 – 2157 07/20. Purple shaded area represents outline extent of the slick from 07/19 ERMA composite.

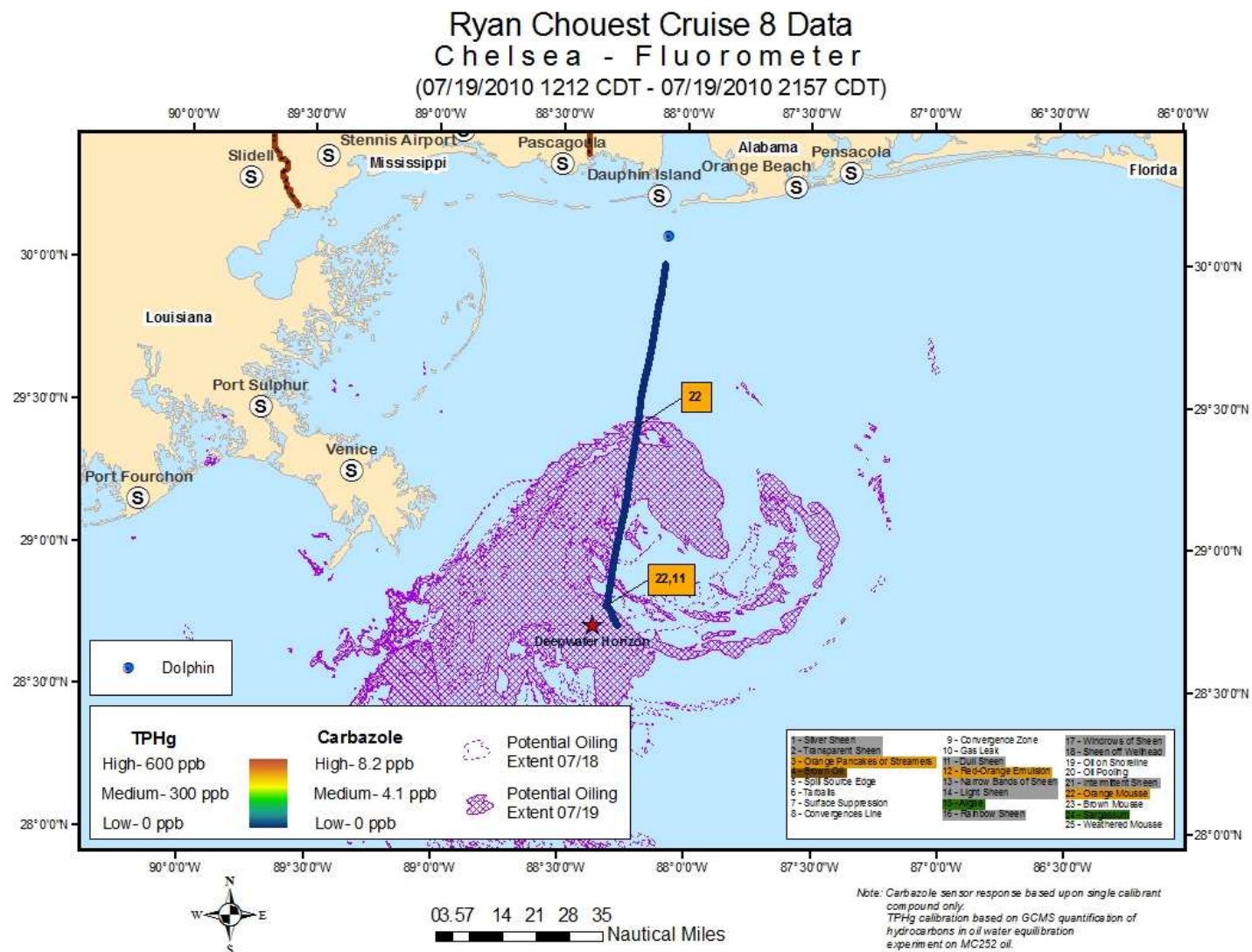


Figure 2. Chelsea fluorometer results plotted with location on cruise track 8. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems.

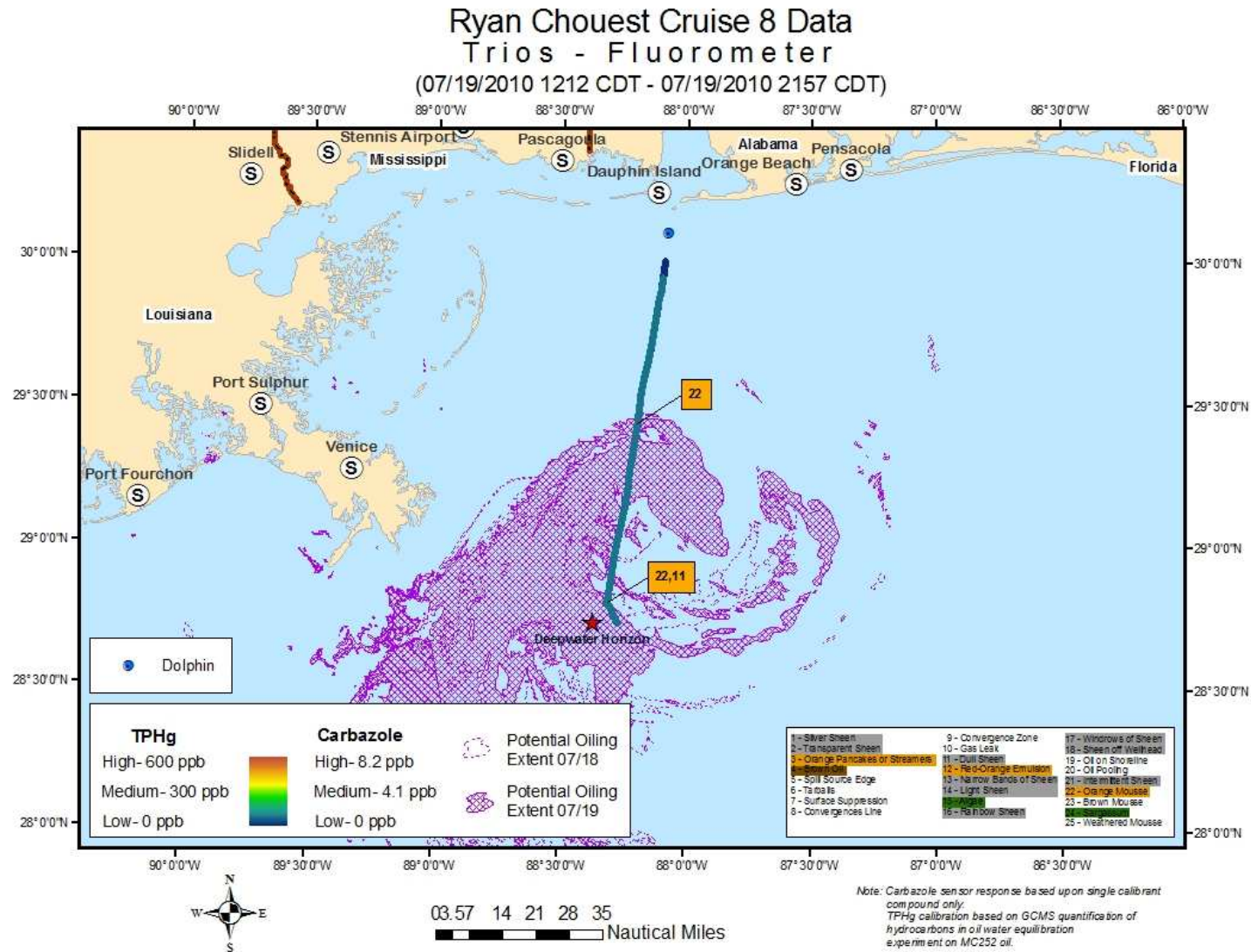


Figure 3. Trios fluorometer results plotted with location on cruise track 8. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems.

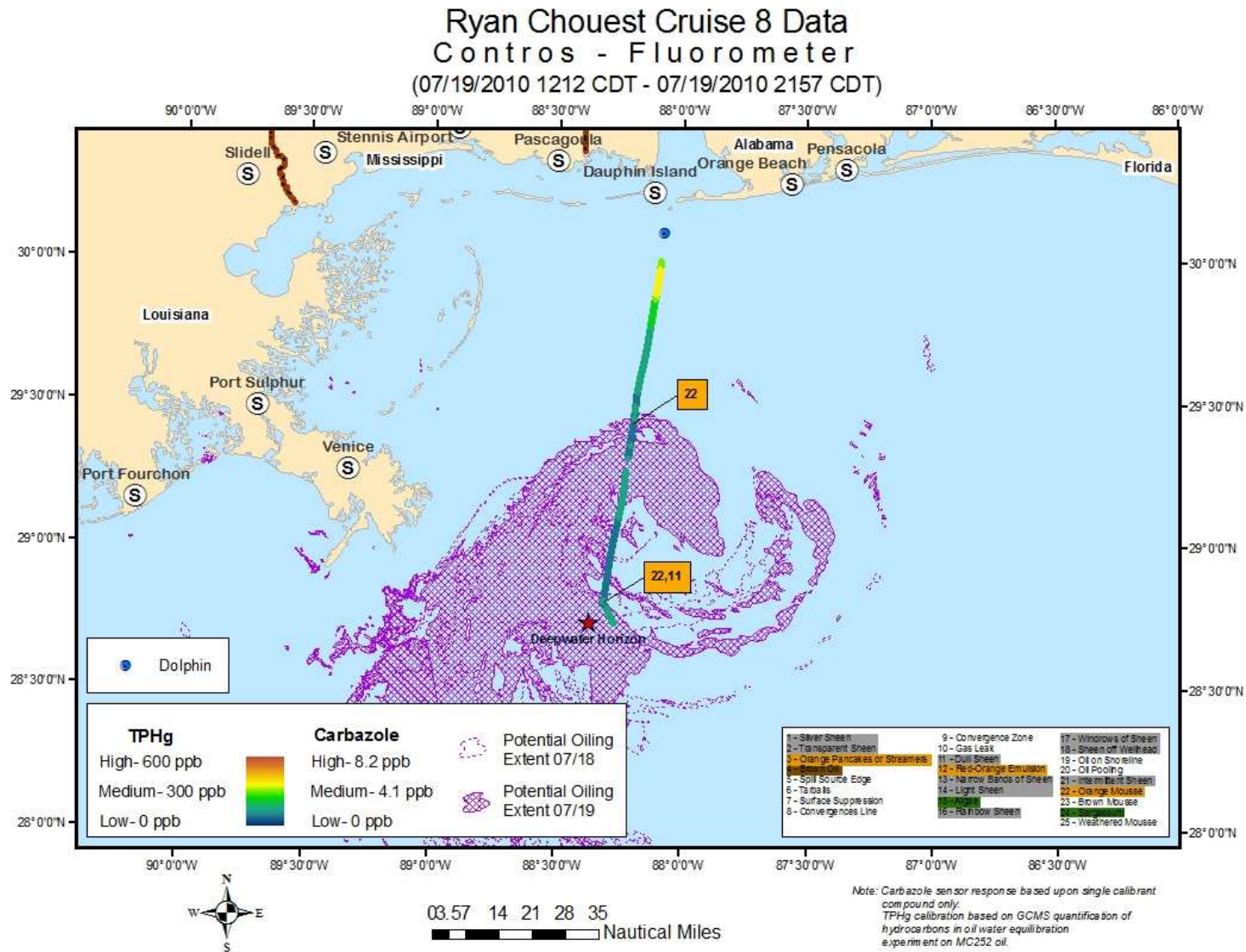


Figure 4. Contros fluorometer results plotted with location on cruise track 8. Breaks in data occur when either data quality is poor or the systems were turned off due to pump problems.

Problems/operational issues:

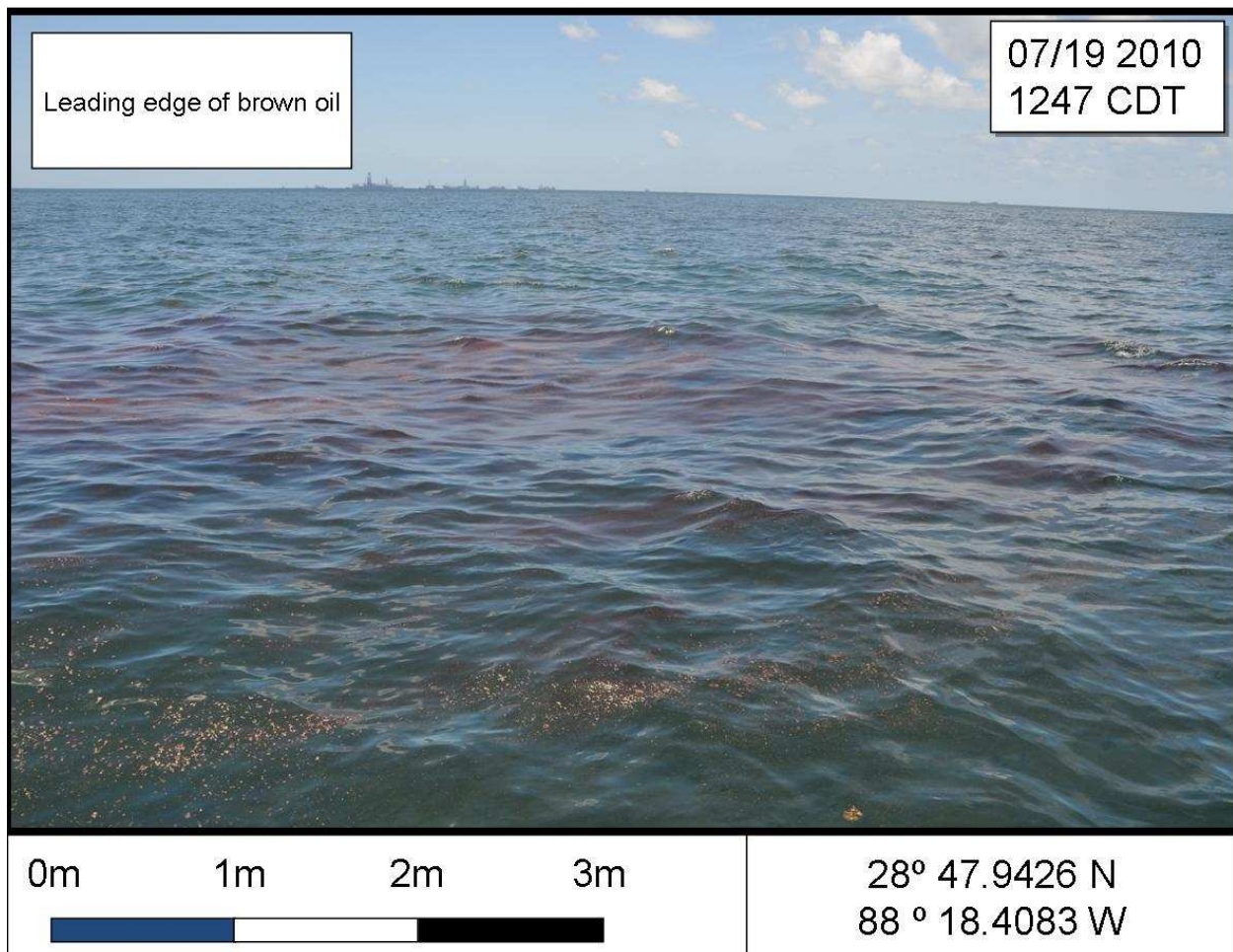
(Includes items up to report submission time)

The generator was replaced with numerous spare primary and secondary fuel filters and air filters.

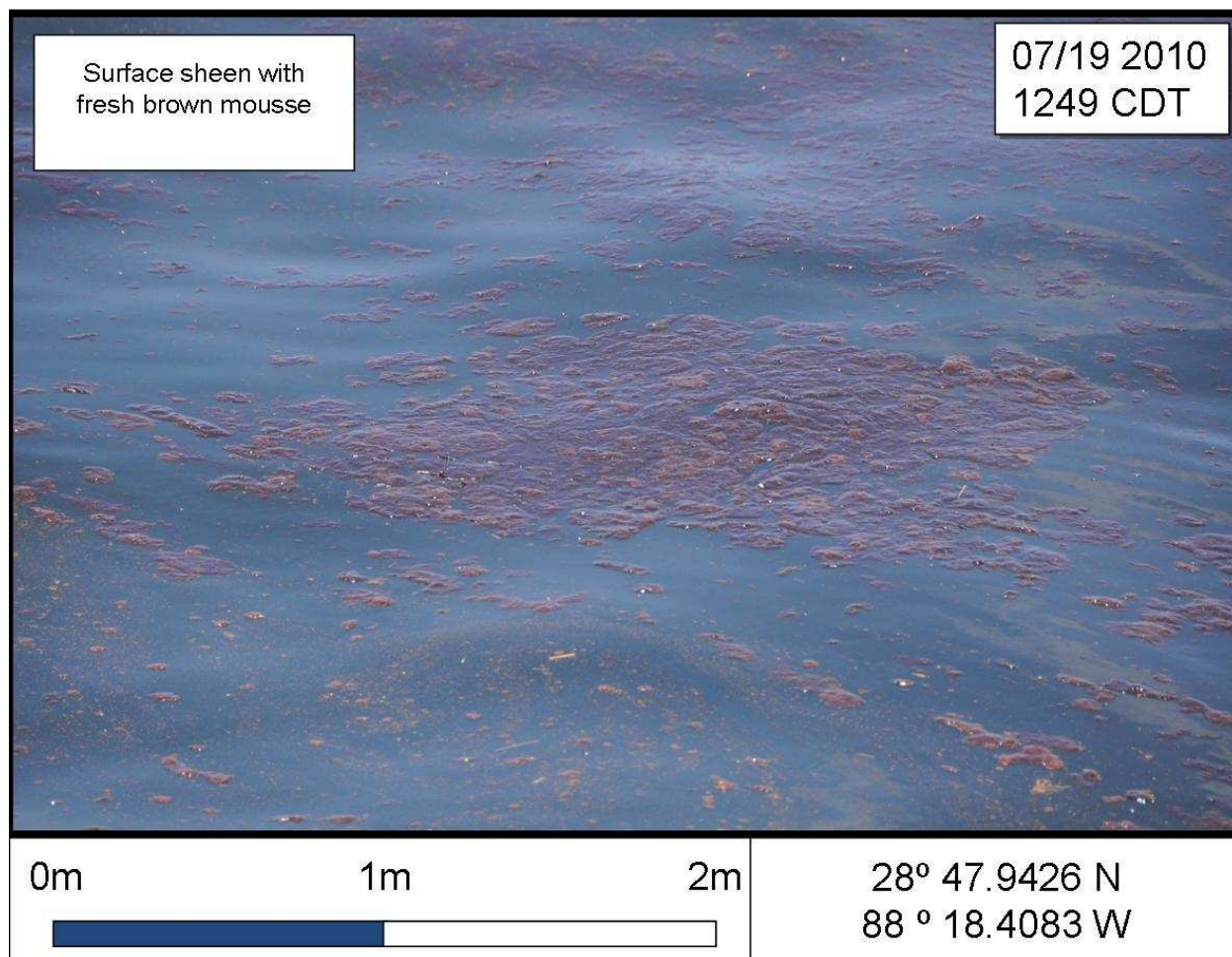
Planned activities for next 24 hours:

We will have a crew change with rotation of CSIRO scientists and complete the fitting of partial face masks for crew members. Total Safety will fit out the new crew arriving tomorrow. We will return to the incident site proximity for further water sampling. Plan is still TBD.

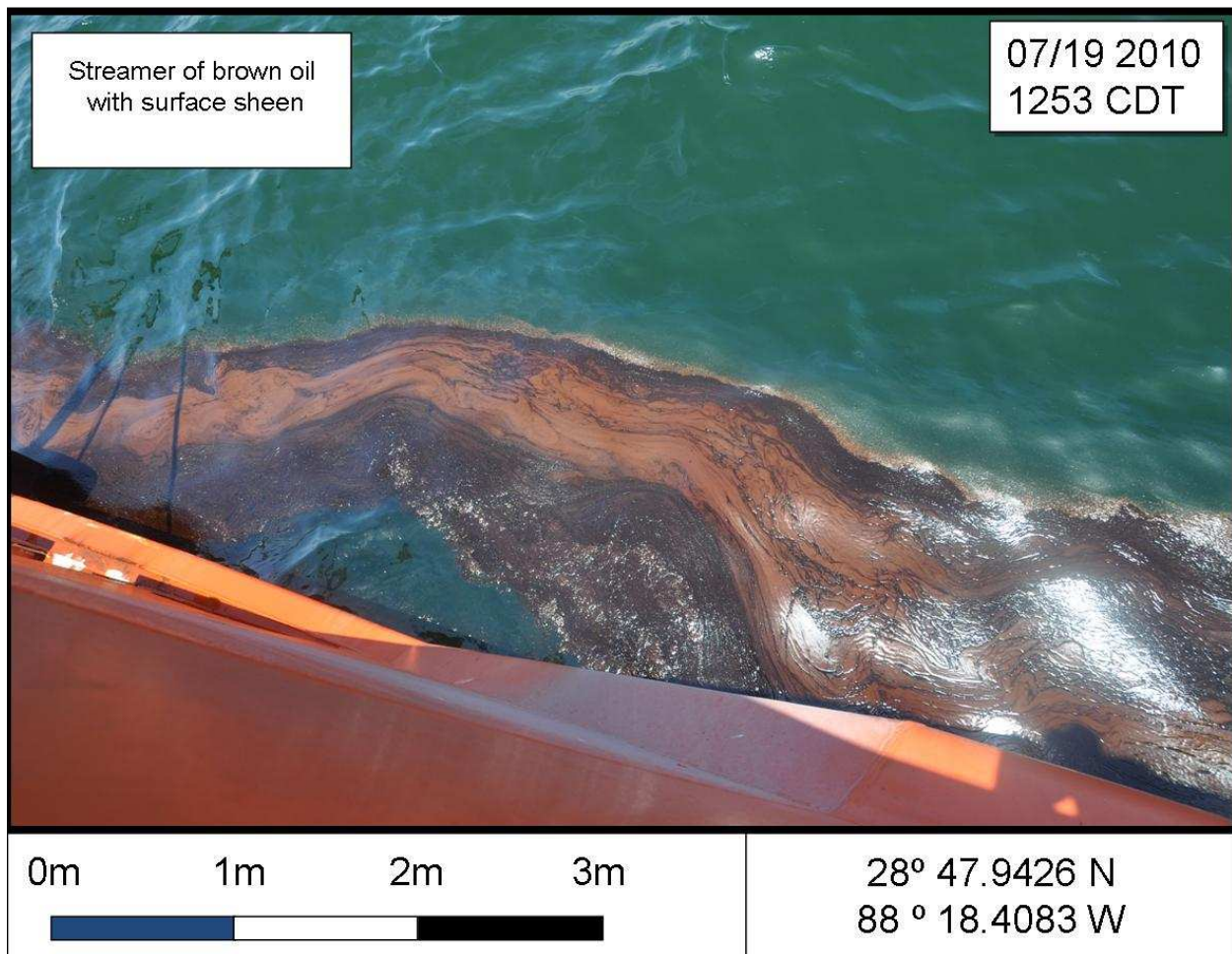
Selected Photos:



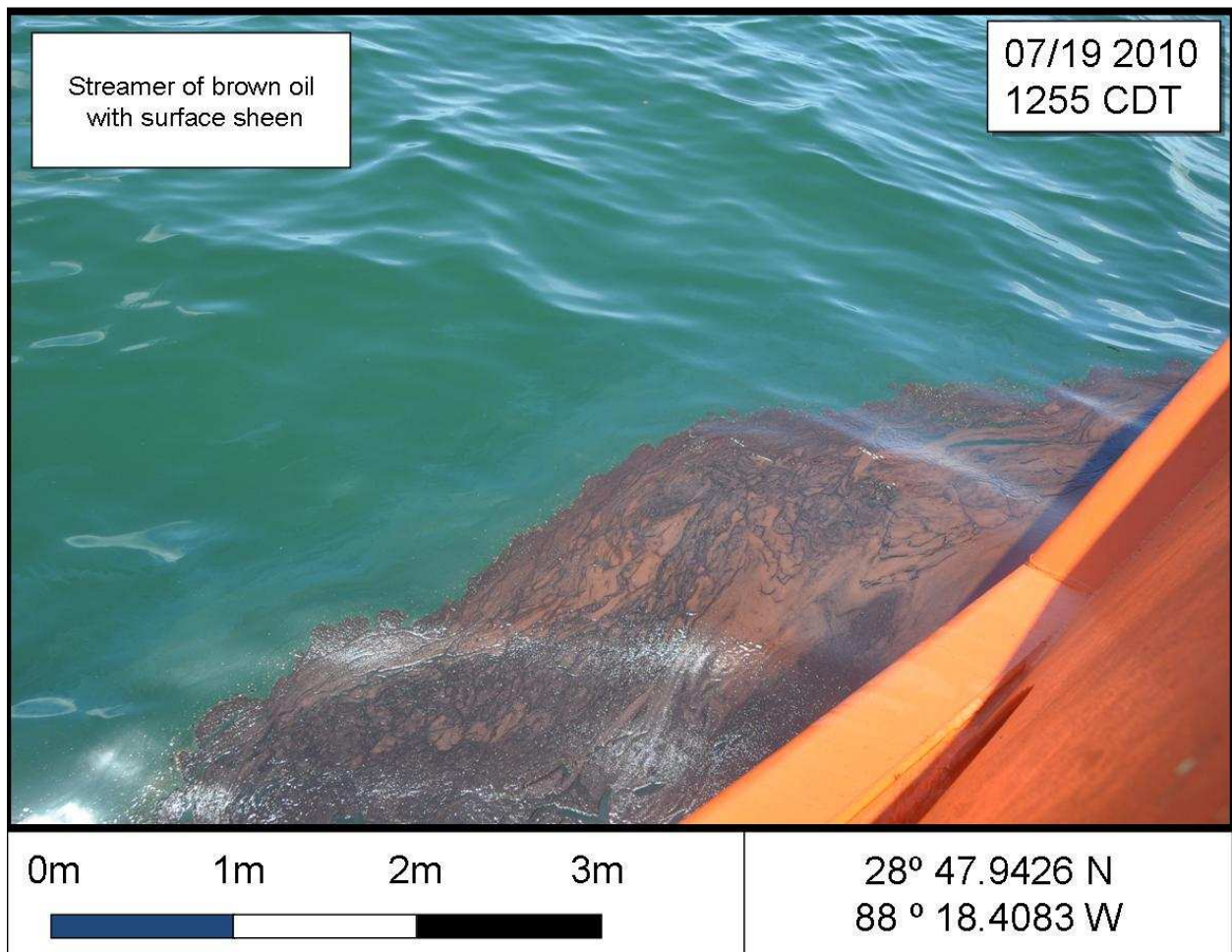
Photograph 1. Leading edge of fresh brown oil encountered near the incident site.



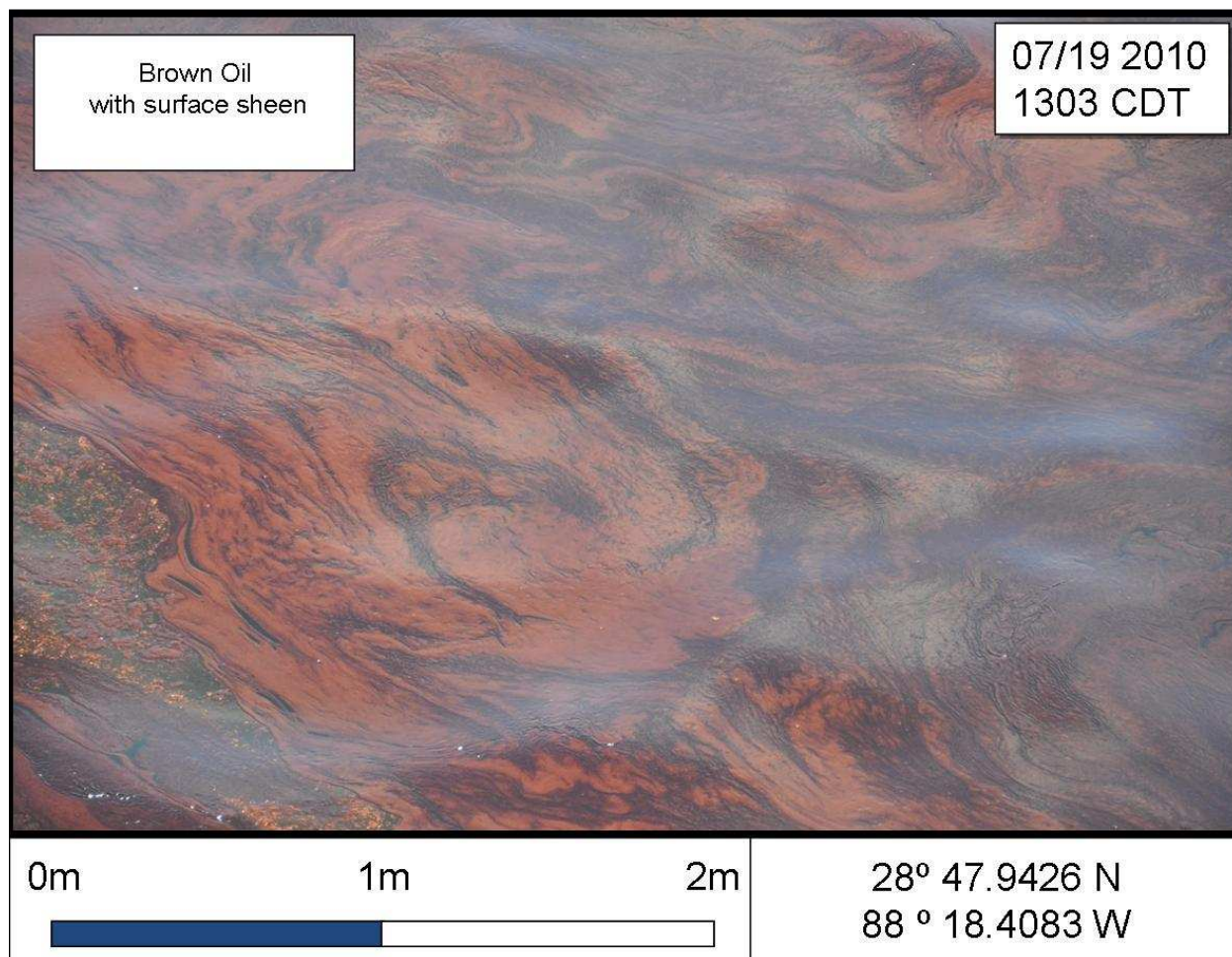
Photograph 2. Surface sheen with fresh pieces of brown mousse.



Photograph 3. Streamer of brown oil along the port side.



Photograph 4. Streamer of brown oil along the port side with frothy light brown wispy patterns.



Photograph 5. Close-up of frothy light brown oil.